Total Nitrogen

Total Nitrogen is an essential nutrient for plants and animals. However, an excess amount of nitrogen in a waterway can lead to low levels of dissolved oxygen and negatively alter various plant life and organisms. Sources of nitrogen include: wastewater treatment plants, runoff from fertilized lawns and croplands, failing septic systems, runoff from animal manure and storage areas, and industrial discharges that contain corrosion inhibitors.

Storm runoff from a cattle operation can increase Total Nitrogen levels in a water body.

Understanding Total Nitrogen: There are three forms of nitrogen that are commonly measured in water bodies: ammonia, nitrates and nitrites. Total nitrogen is the sum of total kjeldahl nitrogen (organic and reduced nitrogen), ammonia, and nitrate-nitrite. It can be derived by monitoring for total kjeldahl nitrogen (TKN), ammonia and nitrate-nitrite individually and adding the components together. An acceptable range of total nitrogen is 2 mg/L to 6 mg/L, though it is recommended to check tribal, state, or federal standards for an adequate comparison of your data.

Trash areas like this may leach chemicals that can increase Total Nitrogen during a storm event into a water body.

Monitoring Equipment: Depending upon monitoring objectives set forth in an environmental program, the following equipment options are commonly used to collect total nitrogen data from the field.

Readily available and economically priced:

- Total Nitrogen Kits

For each component of total nitrogen, the following can be used and are of greater precision and higher cost:

- Meters
- Multiparameter Probes
- Contract Laboratories (if necessary)

For additional information:
www.epa.gov/owow/monitoring/volunteer/stream